

What is claimed is:

1. A method of preparing an animal foodstuff composition, said method comprising the steps:
  - (a) providing transgenic algal cells comprising a nucleotide sequence, said nucleotide sequence capable of expressing a non-native metal-binding protein in said transgenic algal cells;
  - (b) binding said metal-binding protein with at least one metal so as to produce a metal-bound adduct of said metal-binding protein; and
  - (c) admixing said metal-bound adduct with said animal foodstuff.
2. A method according to claim 1 wherein said transgenic algal cells are from the genus *Chlamydomonas*. *genus*
3. A method according to claim 1 wherein said transgenic algal cells are from the strain *Chlamydomonas reinhardtii*. *species*
4. A method according to claim 1 wherein said metal-binding protein is adapted to bind a metal selected from the group consisting of chromium, cobalt, copper, iron, manganese, molybdenum, selenium and zinc, and mixtures thereof.
5. A method according to claim 1 wherein said metal-binding protein is chicken Type II Metallothionein.
6. A method according to claim 1 wherein said transgenic algal cells are in a dried state prior to introduction into said animal foodstuff.
7. An animal foodstuff composition comprising:
  - a) an animal foodstuff; and

b) transgenic algal cells expressing a non-native metal-binding protein in said transgenic algal cells, such that said transgenic algal cells contain said metal-binding protein, said metal-binding protein being bound to a metal.

8. An animal foodstuff composition of claim 7, wherein said metal-binding protein is bound to a metal selected from the group consisting of chromium, cobalt, copper, iron, manganese, molybdenum, selenium and zinc, and mixtures thereof.

9. The animal foodstuff composition of claim 7 wherein said transgenic algal cells are of the genus *Chlamydomonas*.

10. An animal foodstuff composition according to claim 7 wherein said transgenic algal cells are of the strain *Chlamydomonas reinhardtii*.

11. An animal foodstuff composition according to claim 7 wherein said metal-binding protein is chicken Type II Metallothionein.

12. An animal foodstuff composition according to claim 7 wherein said transgenic algal cells are in a dried state prior to introduction into said animal foodstuff.

13. A method of providing a dietary metal supplement to an animal, said method comprising feeding to said animal a food stuff comprising transgenic algal cells expressing a non-native metal-binding protein, such that said transgenic algal cells contain said metal-binding protein, said metal-binding protein being bound to a metal.

14. A method of preparing an animal foodstuff composition, said method comprising the steps:

(a) providing algal cells comprising a nucleotide sequence, said nucleotide sequence capable of expressing a non-native metal-binding protein in said algal cells;

(b) binding said metal-binding protein with at least one metal so as to produce a metal-bound adduct of said metal-binding protein; and

(c) admixing said metal-bound adduct with said animal foodstuff.

15. A method according to claim 14 wherein said algal cells are in a dried state prior to introduction into said animal foodstuff.

16. A method according to claim 14 wherein said metal-binding protein is adapted to bind a metal selected from the group consisting of chromium, cobalt, copper, iron, manganese, molybdenum, selenium and zinc, and mixtures thereof.

17. A method according to claim 14 wherein said metal-binding protein is chicken Type II Metallothionein.

18. An animal foodstuff composition comprising:

(a) an animal foodstuff; and

(b) algal cells expressing a non-native metal-binding protein in said algal cells, such that said algal cells contain said metal-binding protein, said metal-binding protein being bound to a metal.

19. An animal foodstuff composition of claim 18 wherein said metal-binding protein is bound to a metal selected from the group consisting of chromium, cobalt, copper, iron, manganese, molybdenum, selenium and zinc, and mixtures thereof.

20. An animal foodstuff composition according to claim 18 wherein said algal cells are in a dried state prior to introduction into said animal foodstuff.

21. An animal foodstuff composition according to claim 18 wherein said metal-binding protein is chicken Type II Metallothionein.

22. A method of providing a dietary metal supplement to an animal, said method comprising feeding to said animal a food stuff comprising algal cells expressing a non-native metal-binding protein, such that said algal cells contain said metal-binding protein, said metal-binding protein being bound to a metal.